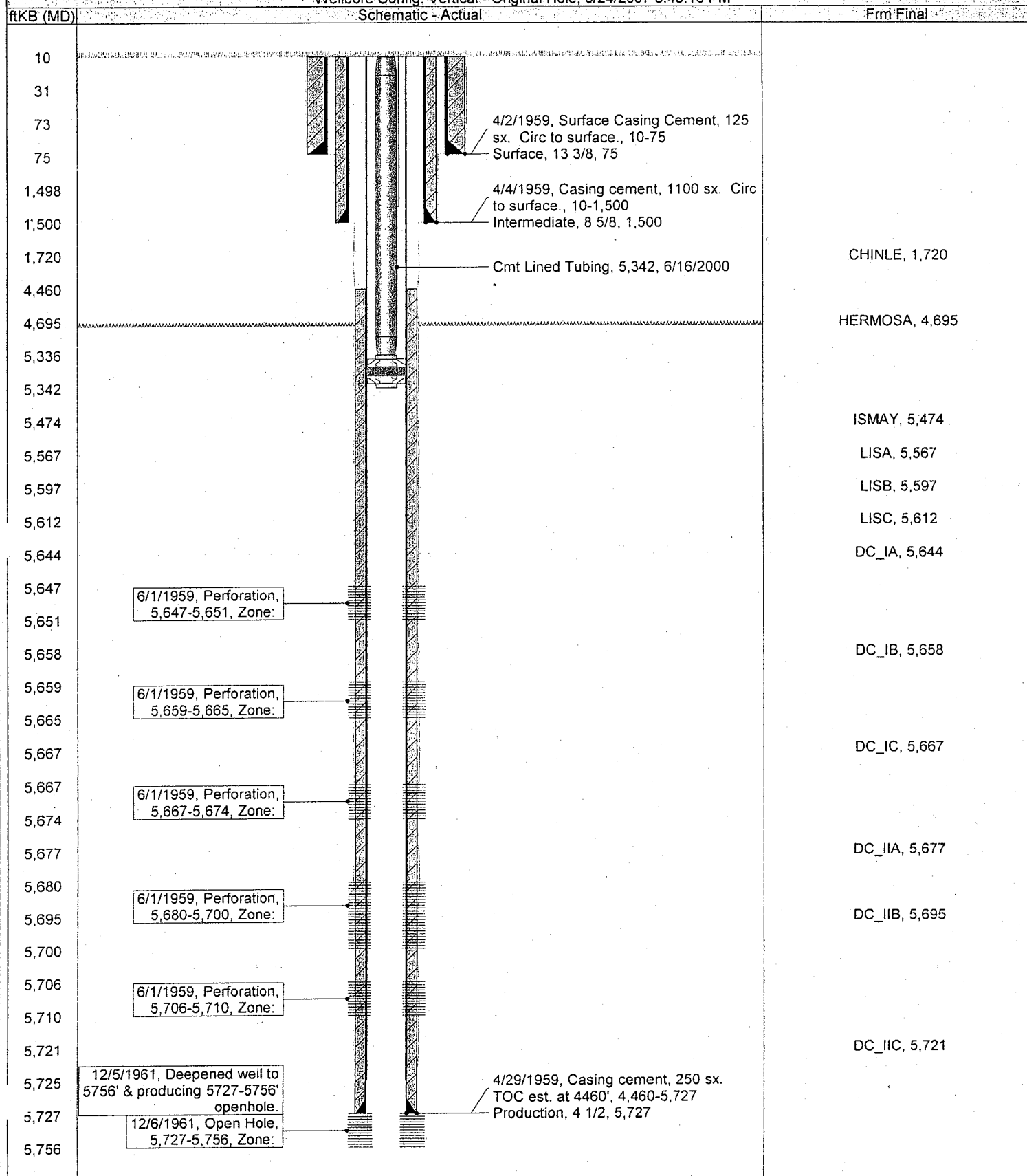APPENDIX C – Wellbore Schematic(s)

RESOLUTE
NATURAL RESOURCES

E-119 from phase I application, **typical injection well with construction deficiency**: intermediate casing set above and no cement at the USDW base (Chinle top)

Well Name: E119 Aneth Unit

API Number	Surface Legal Location	Section	Township	Range	Well Spud Date/Time	Field Name	State/Province
43037162800000	NW NW	19	40S	24E	4/1/1959	Aneth	UT

Original KB Elevation (ft)	KB-Ground Distance (ft)	Total Depth (ftKB)	PBTD (All) (ftKB)
4,774.00	10.00	5,756.0	

Wellbore Config: Vertical - Original Hole, 5/24/2007 3:45:10 PM

ftKB (MD) — **Schematic - Actual** — **Frm Final**

4/2/1959, Surface Casing Cement, 125 sx. Circ to surface., 10-75
Surface, 13 3/8, 75

4/4/1959, Casing cement, 1100 sx. Circ to surface., 10-1,500
Intermediate, 8 5/8, 1,500

Cmt Lined Tubing, 5,342, 6/16/2000

6/1/1959, Perforation, 5,647-5,651, Zone:

6/1/1959, Perforation, 5,659-5,665, Zone:

6/1/1959, Perforation, 5,667-5,674, Zone:

6/1/1959, Perforation, 5,680-5,700, Zone:

6/1/1959, Perforation, 5,706-5,710, Zone:

12/5/1961, Deepened well to 5756' & producing 5727-5756' openhole.

12/6/1961, Open Hole, 5,727-5,756, Zone:

4/29/1959, Casing cement, 250 sx. TOC est. at 4460', 4,460-5,727
Production, 4 1/2, 5,727

Depth markers (ftKB MD): 10, 31, 73, 75, 1,498, 1,500, 1,720, 4,460, 4,695, 5,336, 5,342, 5,474, 5,567, 5,597, 5,612, 5,644, 5,647, 5,651, 5,658, 5,659, 5,665, 5,667, 5,667, 5,674, 5,677, 5,680, 5,695, 5,700, 5,706, 5,710, 5,721, 5,725, 5,727, 5,756

Frm Final:
CHINLE, 1,720
HERMOSA, 4,695
ISMAY, 5,474
LISA, 5,567
LISB, 5,597
LISC, 5,612
DC_IA, 5,644
DC_IB, 5,658
DC_IC, 5,667
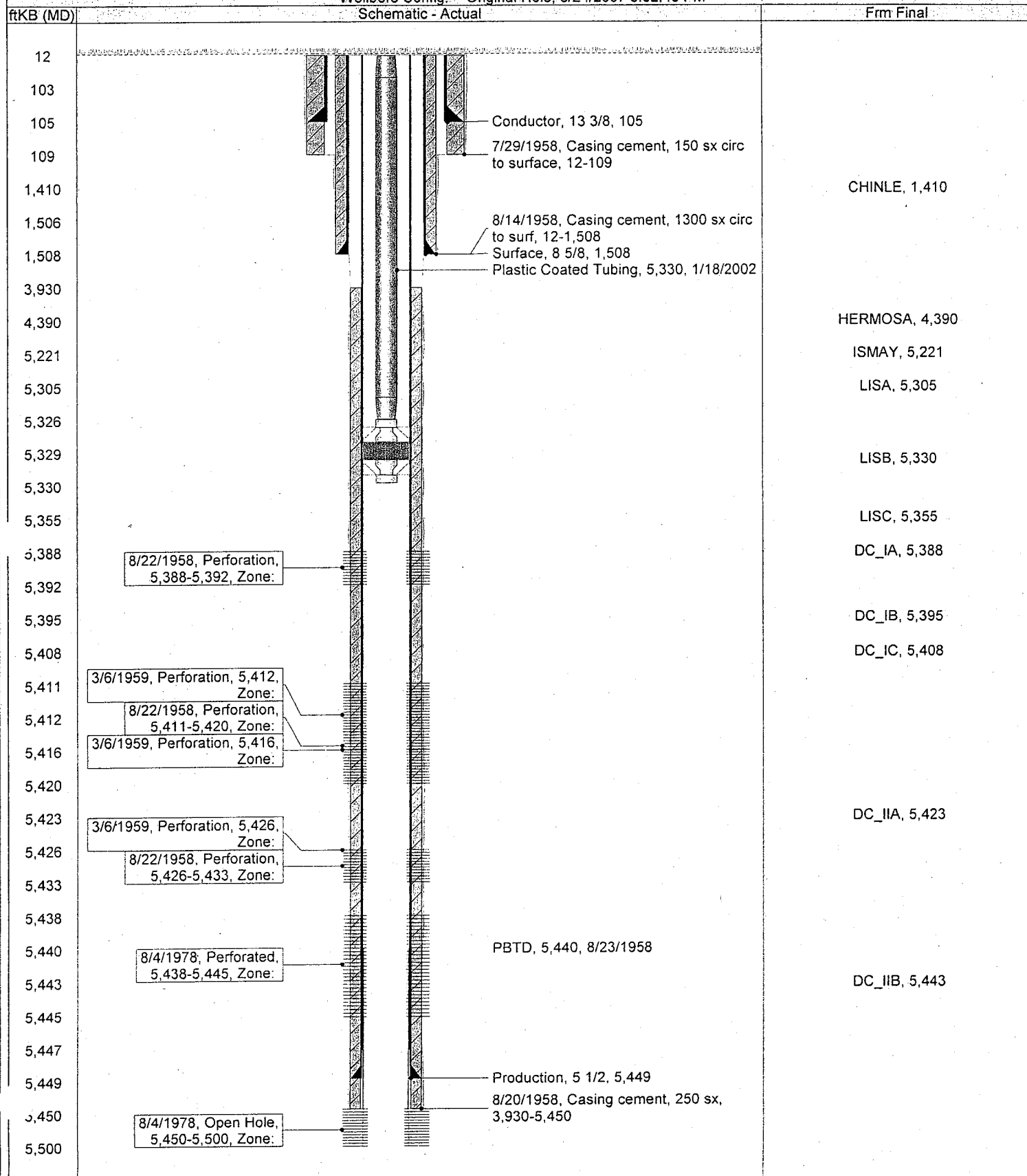DC_IIA, 5,677
DC_IIB, 5,695
DC_IIC, 5,721

RESOLUTE
NATURAL RESOURCES

E-129 from phase I application, **typical injection well without construction deficiency**; intermediate casing extends below and is cemented through the USDW base

Well Name: E129 Aneth Unit

API Number	Surface Legal Location	Section	Township	Range	Well Spud Date/Time	Field Name	State/Province
43037160550000	NW NW	29	40S	24E		Aneth	UT

Original KB Elevation (ft)	KB-Ground Distance (ft)	Total Depth (ftKB)	PBTD (All) (ftKB)
		5,500.0	Original Hole - 5440.0

Wellbore Config: - Original Hole, 5/24/2007 3:52:46 PM

ftKB (MD)	Schematic - Actual	Frm Final

Conductor, 13 3/8, 105

7/29/1958, Casing cement, 150 sx circ to surface, 12-109

CHINLE, 1,410

8/14/1958, Casing cement, 1300 sx circ to surf, 12-1,508
Surface, 8 5/8, 1,508
Plastic Coated Tubing, 5,330, 1/18/2002

HERMOSA, 4,390

ISMAY, 5,221

LISA, 5,305

LISB, 5,330

LISC, 5,355

DC_IA, 5,388

8/22/1958, Perforation, 5,388-5,392, Zone:

DC_IB, 5,395

DC_IC, 5,408

3/6/1959, Perforation, 5,412, Zone:
8/22/1958, Perforation, 5,411-5,420, Zone:
3/6/1959, Perforation, 5,416, Zone:

DC_IIA, 5,423

3/6/1959, Perforation, 5,426, Zone:
8/22/1958, Perforation, 5,426-5,433, Zone:

PBTD, 5,440, 8/23/1958

8/4/1978, Perforated, 5,438-5,445, Zone:

DC_IIB, 5,443

Production, 5 1/2, 5,449
8/20/1958, Casing cement, 250 sx, 3,930-5,450

8/4/1978, Open Hole, 5,450-5,500, Zone:

Depth column (ftKB MD): 12, 103, 105, 109, 1,410, 1,506, 1,508, 3,930, 4,390, 5,221, 5,305, 5,326, 5,329, 5,330, 5,355, 5,388, 5,392, 5,395, 5,408, 5,411, 5,412, 5,416, 5,420, 5,423, 5,426, 5,433, 5,438, 5,440, 5,443, 5,445, 5,447, 5,449, 5,450, 5,500
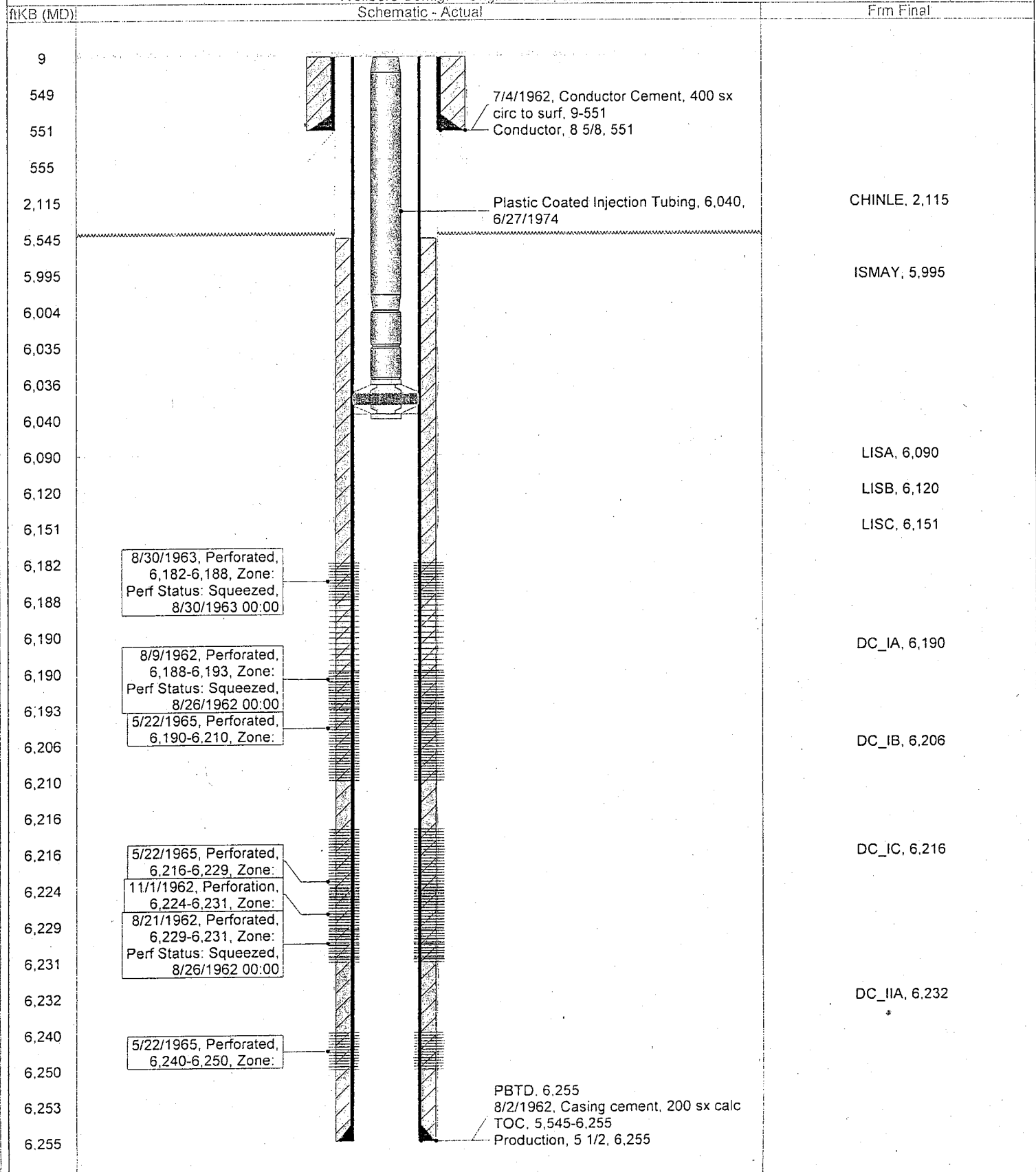
RESOLUTE
NATURAL RESOURCES

D-212 from phase II application, **typical injection well with construction deficiency**: surface casing set above and no cement at the USDW base

Well Name: D212 Aneth Unit

API Number	Surface Legal Location	Section	Township	Range	Well Spud Date/Time	Field Name	State/Province
43037162780000	SE NE	12	40S	23E		Aneth	UT

Original KB Elevation (ft)	KB-Ground Distance (ft)	Total Depth (ftKB)	PBTD (All) (ftKB)
5,269.00	9.00	6,255.0	Original Hole - 6255.0

Wellbore Config: - Original Hole, 8/14/2007 3:19:22 PM

ftKB (MD)	Schematic - Actual	Frm Final

Schematic labels (top to bottom):

- 7/4/1962, Conductor Cement, 400 sx circ to surf, 9-551
- Conductor, 8 5/8, 551
- Plastic Coated Injection Tubing, 6,040, 6/27/1974
- 8/30/1963, Perforated, 6,182-6,188, Zone: Perf Status: Squeezed, 8/30/1963 00:00
- 8/9/1962, Perforated, 6,188-6,193, Zone: Perf Status: Squeezed, 8/26/1962 00:00
- 5/22/1965, Perforated, 6,190-6,210, Zone:
- 5/22/1965, Perforated, 6,216-6,229, Zone:
- 11/1/1962, Perforation, 6,224-6,231, Zone:
- 8/21/1962, Perforated, 6,229-6,231, Zone: Perf Status: Squeezed, 8/26/1962 00:00
- 5/22/1965, Perforated, 6,240-6,250, Zone:
- PBTD, 6,255
- 8/2/1962, Casing cement, 200 sx calc
- TOC, 5,545-6,255
- Production, 5 1/2, 6,255

Depth markers (ftKB MD): 9, 549, 551, 555, 2,115, 5,545, 5,995, 6,004, 6,035, 6,036, 6,040, 6,090, 6,120, 6,151, 6,182, 6,188, 6,190, 6,190, 6,193, 6,206, 6,210, 6,216, 6,216, 6,224, 6,229, 6,231, 6,232, 6,240, 6,250, 6,253, 6,255

Frm Final:
- CHINLE, 2,115
- ISMAY, 5,995
- LISA, 6,090
- LISB, 6,120
- LISC, 6,151
- DC_IA, 6,190
- DC_IB, 6,206
- DC_IC, 6,216
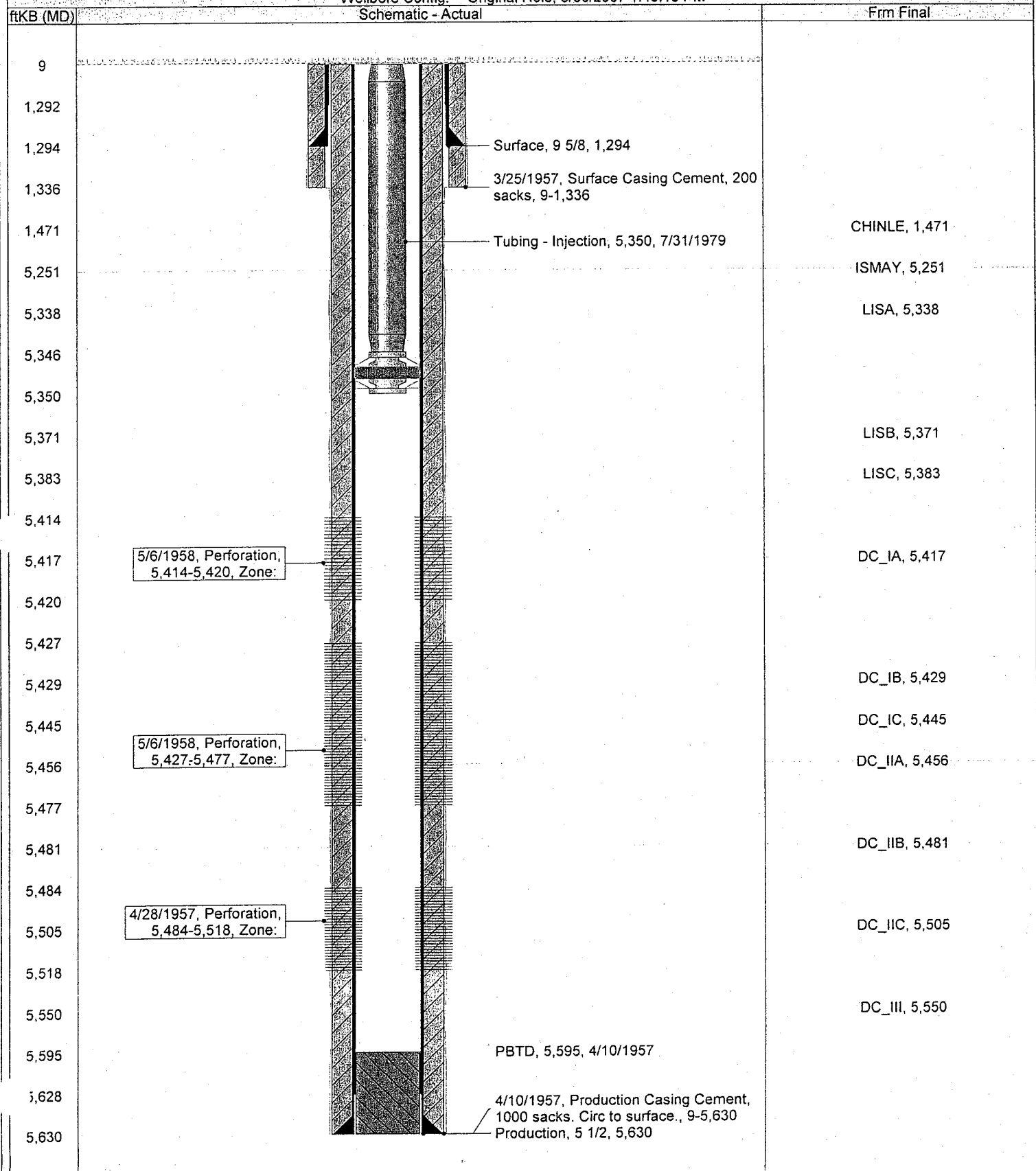- DC_IIA, 6,232

Report Printed: 8/14/2007

H-408 from phase I application, **typical injection well without construction deficiency:** surface or intermediate casing set above the USDW base but long string casing cemented to surface

Well Name: H408 Aneth Unit

API Number	Surface Legal Location	Section	Township	Range	Well Spud Date/Time	Field Name	State/Province
43037163230000	SE SE	8	40S	24E		Aneth	UT

Original KB Elevation (ft)	KB-Ground Distance (ft)	Total Depth (ftKB)	PBTD (All) (ftKB)
		5,630.0	Original Hole - 5595.0

Wellbore Config: - Original Hole, 5/30/2007 1:49:13 PM

ftKB (MD)	Schematic - Actual	Frm Final
9		
1,292		
1,294	Surface, 9 5/8, 1,294	
1,336	3/25/1957, Surface Casing Cement, 200 sacks, 9-1,336	
1,471	Tubing - Injection, 5,350, 7/31/1979	CHINLE, 1,471
5,251		ISMAY, 5,251
5,338		LISA, 5,338
5,346		
5,350		
5,371		LISB, 5,371
5,383		LISC, 5,383
5,414		
5,417	5/6/1958, Perforation, 5,414-5,420, Zone:	DC_IA, 5,417
5,420		
5,427		
5,429		DC_IB, 5,429
5,445		DC_IC, 5,445
5,456	5/6/1958, Perforation, 5,427-5,477, Zone:	DC_IIA, 5,456
5,477		
5,481		DC_IIB, 5,481
5,484		
5,505	4/28/1957, Perforation, 5,484-5,518, Zone:	DC_IIC, 5,505
5,518		
5,550		DC_III, 5,550
5,595	PBTD, 5,595, 4/10/1957	
5,628	4/10/1957, Production Casing Cement, 1000 sacks. Circ to surface., 9-5,630	
5,630	Production, 5 1/2, 5,630	

Report Printed: 5/30/2007

C-313 from phase II application,
**typical multilateral injection
well construction**

**Aneth Unit
San Juan County, UT
C-313 Horizontal UIC Well Schematic
Splayed Laterals in Desert Creek**

Navajo Ss, Kayenta & Wingate Ss:
Primary fresh water aquifer

8 5/8", 24# J-55 Csg: 11" OH w/300 sxs
510 ft

1,623 ft

Chinle Fm:
Moderately saline to saline aquifer. Top is generally
considered base of fresh water

Moenkopi Fm

Cutler Gp Incl. DeChelly and Organ Rock:
Thick, Permian age succession of predominantly non-
marine siliciclastics

4,646 ft

Hermosa:
Finely crystalline limestone and dolomite, micaceous
siltstone, and arkosic sandstone". Gross thickness 750 to
1,000 feet, primary top seal.

5,511 ft

Lateral KOP @ 5,659 ft

5,684 ft

Ismay:
Secondary injection/production zone

Gothic
Desert Creek:
Porous hydrocarbon bearing carbonates, primary
injection/production zone

Lateral BHLs
Lateral #1: 5,659' - 6,661' TMD
BHL: 2,643' FSL & 2,650' FEL 13-40S-23E @ 5,692' TVD
Lateral #2: 5,721' - 6,689' TMD
BHL: 2,643' FSL & 2,650' FEL 13-40S-23E @ 5,678' TVD
Lateral #3: 5,752' - 5,845' TMD
BHL: 2,059' FSL & 2,048' FEL 13-40S-23E @ 5,763' TVD
Lateral #3A: 5,664' - 6,728' TMD
BHL: 2,638' FSL & 2,675' FEL 13-40S-23E @ 5,749' TVD

5 1/2", 14# J-55 Csg: 7 7/8" OH w/200 sxs
5,883 ft